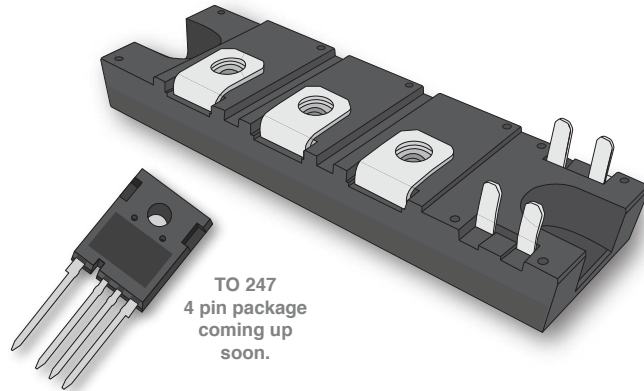


Bringing a brighter future with our 3S SiC MOSFET family

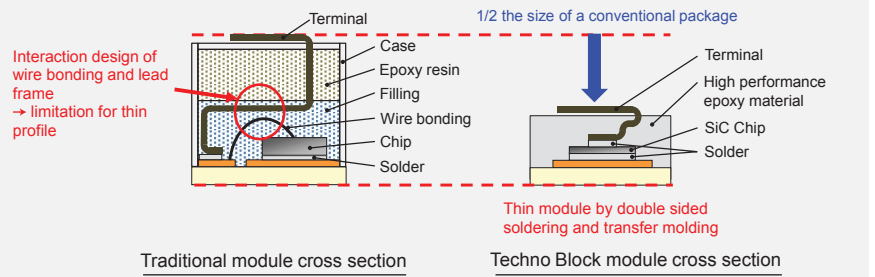


TO 247 4 pin package coming up soon.



**SanRex**, the brand of Sansha Electric Manufacturing, has invented a new power semiconductor product family that uses the latest cutting-edge technology available on the market: 3S SiC MOSFET. The three S's describe the three most important characteristics our SiC MOSFET products have as their exclusive special features: Smaller, Safer and Supportive.

### COMPACT SIZE



### APPLICATIONS\*:

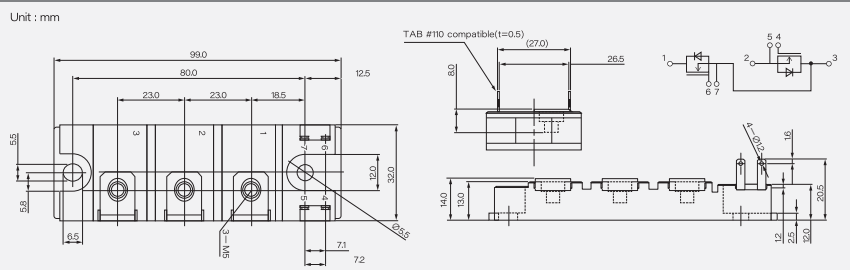
- Industrial induction heating
- Industrial inverter
- Solar inverter
- Battery charger for EV
- High efficiency power supply
- UPS
- Power supply and inverter
- Motor drive
- Auxiliary power supply for transportation
- Welding and plasma cutting machine

This package is the smallest in the market for 1200V devices due to the use of our original manufacturing technology Techno Block®.

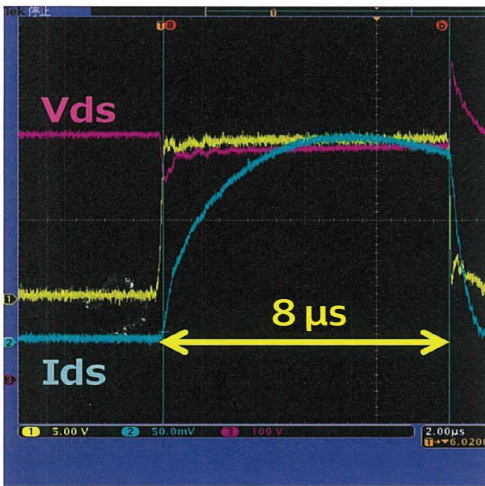
**SMALLER** – The size is about one third of a conventional module package but even more powerful. The package is built by using our own Techno Block technology, that also includes a DioMOS\*-structure: this means no external diode is needed since the diode function is included on the die. The very low package inductance ensures that our 3S SiC MOSFET products are able to run smoothly even at high frequencies.

\*SiC MOSFET features a FWD (flywheel diode), that is based on the function developed by Panasonic.

### MODULE



\*Applications listed here are the most typical fits for our SiC MOSFETs. Please don't hesitate to ask more about other possible adequate applications.



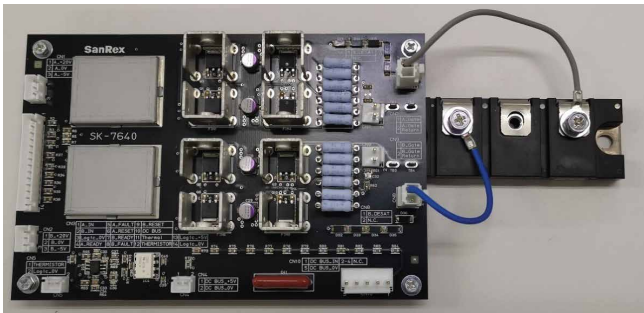
Vbus=600V  
Rg=15Ω  
Tj=150C°

**SAFER** – The high performance has not been compromised by giving less attention to the safety. Our 3S SiC MOSFET products have high short circuit capability and low output characteristics that guarantee even safer way of using our modules. The power cycle capability is ensured to run three times longer compared to conventional modules.

**High short circuit capability**

Competitor's 1200V SiC device has 1 to 2 μs capability for short circuit. Our SiC-MOSFET has more than 8 μs capability. The reliability is maintained at transient condition while allowing simpler design for short circuit prevention.

**SUPPORTIVE** – There are many challenges on the market concerning new technology of SiC MOSFETs. We have a history of 87 years in the power supply market and have accumulated vast knowledge of different application-specified requirements. Besides providing you the product itself, we are ready to support you by offering necessary documents, technical support and help in device design.



**Driver for 1200/1700V SiC MOSFET**

One of our drivers called SK 7640 was designed to be used together with our 1200V/1700V, 150A SiC MOSFET. The main features of the driver include the maximum drive switching frequency of more than 400kHz, maximum peak current of 40A and various safety capabilities in the form of e.g. gate drive IC shield, short circuit protection and under voltage protection. We are able to support you in designing and developing the technical features of your driver if needed.



**Regenerative bidirectional DC power supply**

FCA150AC120 from our 3S SiC MOSFET family is included in our newest power supply development, Modular regenerative bidirectional DC power supply (30kW range, output voltage 500V, output current 180A). The SiC MOSFET enables the machine to reach the fastest response speed and highest efficiency level available in its power range on the market nowadays. Main applications: In-vehicle inverter for electric automobiles and fuel-cell vehicles, DC/DC Converter, Testing of different kind of batteries.



Japan's Ministry of Economy, Trade and Industry in co-operation with Japan Business Federation and New Energy and Industrial Technology Development Organization have launched the "Zero Emissions Challenge" that incorporates all in all 320 different Japanese companies that challenge themselves in innovation and are seen as significant players in the realization of low-carbon society. We are honored to be elected as one of these companies.